

## Thin, flexible, clip-around 3 phase ac current transducer

# RCTi<sup>®</sup>-3ph

The **RCTi-3ph** is an industrially specified ac current transducer for permanent installation. The coil sensors are thin, lightweight, flexible and clip-around. The output for each phase is an instantaneous voltage proportional to the measured current.

Typically the **RCTi-3ph** is used with oscilloscopes, data acquisition cards, power analyzers and meters and in power quality applications.

The **RCTi-3ph** is an ideal replacement for medium / large current, current transformers (CT's).



- **easy to retrofit** - the coil is small, light weight, and its length can be specified independently of the size of measured current
- **does not suffer from magnetic saturation**
- **non intrusive** - the coil draws no power from the circuit under test
- **no danger of open circuit secondaries**
- **low phase shift** at power frequencies (50/60Hz) and above
- **wide-bandwidth 0.6Hz to 800kHz** for measurement of sub and higher frequency harmonics and complex waveforms
- **a single enclosure and power supply cable for three channels**

### Specifications

Rated RMS current	500 A	(707A <sub>pk</sub> )
	1,000 A	(1414A <sub>pk</sub> )
	2,500 A	(3535A <sub>pk</sub> )
	5,000 A	(7070A <sub>pk</sub> )
	10,000 A	(14140A <sub>pk</sub> )
	25,000 A	(35350A <sub>pk</sub> )
Rated Output (Full scale FS)	50,000 A	(70700A <sub>pk</sub> )
Output limit	±5.0Vrms (±7.07V peak)	
Output limit	150% FS (±10.6V peak)	
Supply voltage	12Vdc (-10%) at 150mA <b>-to-</b>	
Wide supply range	24V (+20%) at 50mA	
Operating temperature range	-5°C to +65°C	
Bandwidth (-3dB)	0.6Hz to 800kHz	
Phase shift @ 50Hz	0.9±0.1 degrees	
Accuracy	±1.0% of reading (5% to 150% FS, 25°C)	
Temperature coefficient	-0.01 (coil) ±0.012 (integrator) % / °C	
Output load	> 10.0kΩ	

### Features

- **Traceable calibration**
  - Every transducer is supplied with traceable calibration at 50Hz
  - Due to the excellent linearity of Rogowski coils (<0.05%) the calibration is maintained throughout the current range
- **Fully isolated measurement**
  - Power supply isolated to 1kVrms
  - Rogowski coil insulated to 2kV peak. Established by a standard 'flash test' at 4kVrms, 50Hz for 60 seconds
- **Easy to install, flexible, 'clip-around' coil sensor available in three standard lengths**
  - 300mm (11.8"), 500mm (19.7") and 700mm (27.6")
  - Custom lengths available on request
- **1m cable connecting the coil to the electronic integrator**
  - Custom lengths available on request
- **Small DIN rail or panel mount electronics enclosure**

### Customising the RCTi-3ph

For specifications outside those detailed on the specification sheet please contact Powertek e.g.

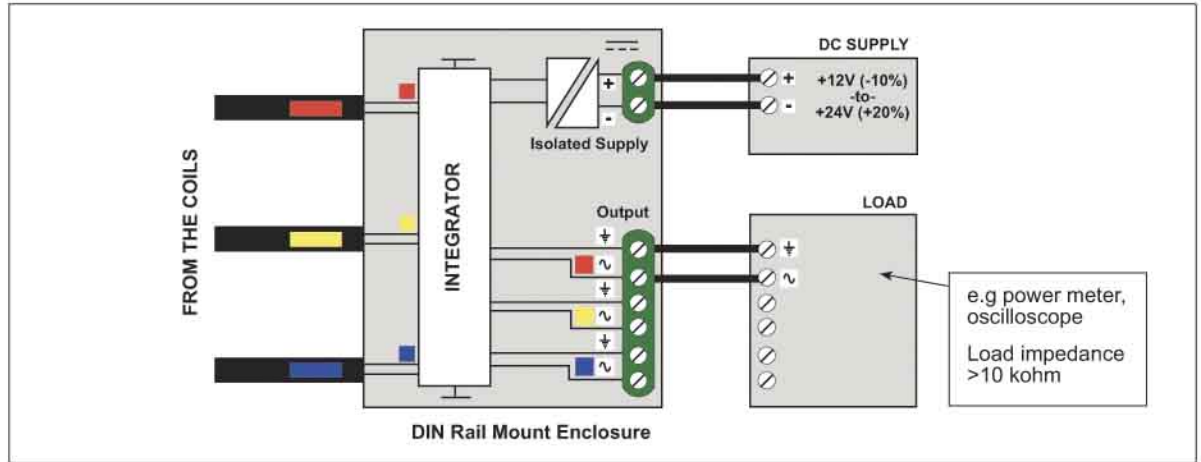
- Phase error requirements at different frequencies
- Extended coil / cable lengths
- Further current / output ratings
- Customised frequency response

### Standards and Approvals

- CE Marked
- Complies with EN 61010:2001
- Powertek is an ISO9001:2000 registered company
- EMC EN 61326



## Connections



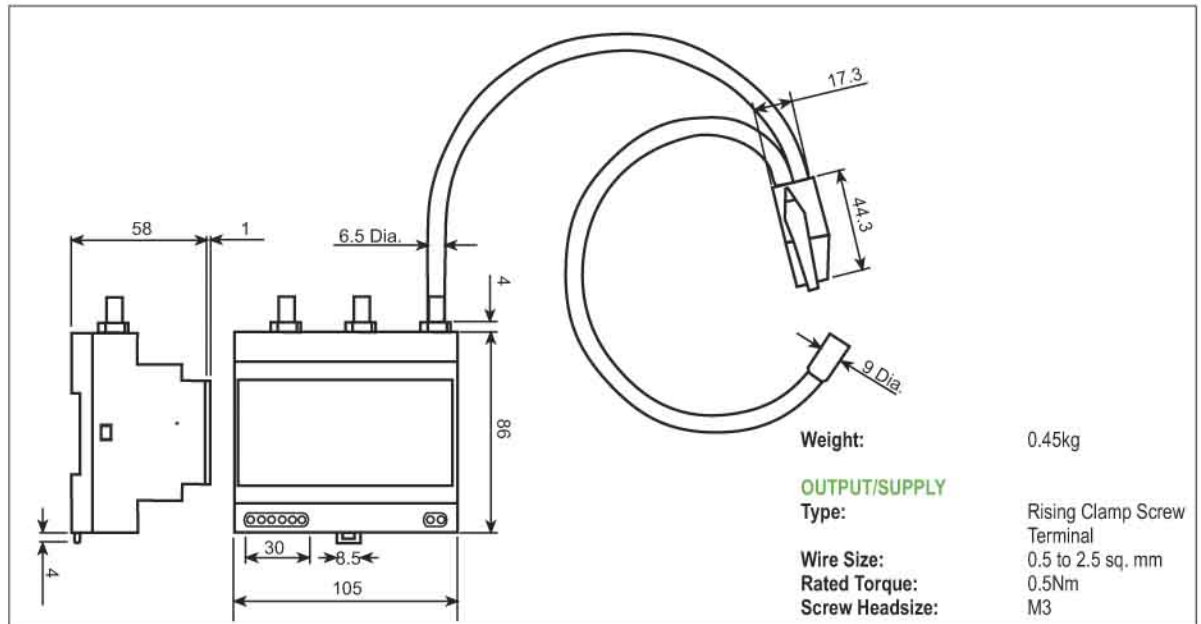
## Order Code

RCTi-3ph /		/	
	Current range (RMS)		Coil length
2	- 500 A	300	- 300 mm
3	- 1000 A	500	- 500 mm
4	- 2500 A	700	- 700 mm
5	- 5000 A		
6	- 10000 A		
7	- 25000 A		
8	- 50000 A		

For example a RCTi-3ph / 5 / 700 has a current rating of 5000A and a 700mm (27.6") circumference Rogowski coil. It requires a +12 (-10%) to +24V(+20%)V dc supply.

Customised versions are available on request. If your requirement is outside that listed in this datasheet please contact **Powertek**.

## Dimensions



## Further information

Further technical advice available at [www.powertekuk.com](http://www.powertekuk.com). For all questions, queries or specifications outside those listed please contact Powertek.

# Powertek

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